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NUTT, Stephen, Laurence [AU/AU]; 16 Mirams Street,
Ascot Vale, VIC 3032 (AU).

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(74) Agents: HUGHES, E., John, L. et al.; Davies Collison
Cave, 1 Nicholson Street, Melbourne, VIC 3000 (AU).

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(71) Applicant (for all designated States except US): THE
WALTER AND ELIZA HALL INSTITUTE OF MED-
ICAL RESEARCH [AU/AU]; Royal Parade, Parkville,
VIC 3052 (AU).

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(72) Inventors; and

(75) Inventors/Applicants (for US only): KALLIES, Axel
[DE/AU]; 11/14 Robe Street, St Kilda, VIC 3182 (AU).
HASBOLD, Jhagvaral [AU/AU]; 3/10 Thea Avenue,
North Balwyn, VIC 3104 (AU). TARLINTON, David
[AU/AU]; 28 Kerr Street, Blackburn, VIC 3130 (AU).
CORCORAN, Lynn [AU/AU]; 180 Kilby Road, East
Kew, VIC 3102 (AU). HODGKIN, Philip, Desmond
[AU/AU]; 50 The Avenue, Coburg, VIC 3058 (AU).

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(54) Title: MODIFIED CELLS THAT CO-EXPRESS BLIMP1 AND A REPORTER MOLECULE AND METHODS OF USING
THE SAME

(57) Abstract: In one aspect, the present invention provides a genetically modified cell or non-human organism comprising such
cells comprising modified genetic material which when expressed produces a polypeptide co-expressed with a reporter molecule and
wherein the polypeptide is associated with terminal differentiation of a haematopoietic cell. Preferably, the genetic material gene is a
Blimp allele or a part, fragment or functional form thereof. Furthermore, the identification of the reporter molecule in B-cell lineage
cells indicates that such cells are committed to differentiate or have differentiated into ASC. Alternatively, reporter molecule activity
in cells of a T cell lineage indicates that these cells are activated. Thus, as described herein, the presence of Blimp in a lymphocyte
indicates that the cell is terminally differentiated or is committed to terminal differentiation. Exemplary T-cells include CD4⁺ T-cells
and CD8⁺ T-cells and exemplary B-cells are ASC.

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